# **Retirement Expectations vs. Reality: If COVID-19 Did Not Impact Retirement Expectations Significantly, What Did?**

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#### Abstract

Using two data sets (a Prudential Financial Wellness Survey and the Health and Retirement Study), this study demonstrates that although there is generally a natural upward trend for older (age 50+) Americans to progressively delay their expected retirement age, this trend has no statistically significant relationship with the COVID-19 pandemic. The distribution of older Americans' expected retirement ages is bimodal, often centered around two Social Security Benefit claiming ages – the early retirement age and full retirement age. However, actual retirement ages are more likely to follow a left-skewed distribution, whereby people appear to retire earlier than expected. The most significant factors that influence participants' retirement decisions relative to expectations are health (+), wealth (-), age (+), change of marital status (+), mortality expectations (+), education levels (+), disability (-), and major illness diagnosis (-). Focusing on these factors can help the retirement benefits community explore strategies to mitigate the negative consequences of gaps between retirement expectations and reality.

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#### Introduction and Literature Review

For most households, planning for retirement involves some degree of uncertainty, whether about post-retirement spending, longevity, health, or other factors. American workers' retirement timing expectations play important roles in predicting their retirement decisions (Haider and Stephens 2007), and thus also play important roles in policy proposals (VanDerhei 2022) as well as the design of retirement products and services (Blanchett 2015) to help retirees better plan for their future retirement. Research interests in people's retirement expectations have increased significantly in both academia and industry (Beehr 2014; Haider and Stephens 2007; Hanspal et al. 2020, 2021). Arguably, the most important retirement decision is when to retire, a factor over which workers have varying degrees of control.

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From stochastic retirement readiness model design to Social Security benefits projection estimations and from defined contribution (DC) plan savings strategies to Monte Carlo retirement-income-replacement goals success rate calculations, people's expected retirement age is a crucial factor for industry advisors and financial planners to design retirement services, projection models, and to offer sound advice to their clients. Retirement expectations determine retirement intentions, and retirement intentions are predictors of retirement behavior (Blanchett 2018). Individuals who want to maintain their desired standard of living when retired will need to accumulate sufficient financial assets with careful preparation and have a more realistic retirement age projection before the actual retirement. Conversely, if an individual does not demonstrate sufficient preparedness, her plans to retire at a given age may not prove achievable. A deeper understanding of the significance of retirement age expectations is needed for such preparations. Dubina et al. (2020) [The U.S. Bureau of Labor Statistics] predicted that over 1 out of 4 workers in the U.S. labor force will be 65 or older by 2030, contributing to the sustained decline of the labor force participation rate. Many workers and retirees concur that saving for retirement is more important than other household demands (EBRI Retirement Confidence Survey 2021). Knowing that retirement plans are crucial to retirement outcomes, it is important to study American workers', especially elderly American adults' retirement expectations.

investigated Previous studies several socioeconomic and demographic factors that might potentially impact expected retirement ages. For instance, using the 2006 and 2008 waves of the Health and Retirement Study (HRS), Szinovacz et al. (2014) found that debt, assets, education, race, gender, marital status, and income are all factors that are associated with participants' retirement decisions. On the other side of the coin, past studies have found that the age of eligibility for retirement benefits has a significant impact on actual retirement date (Coile & Gruber, 2007). Research has also found evidence that labor market downturns, such as the Global Financial Crisis of 2009-2009 and the COVID-19 pandemic, can impact retirement decision-making. For example, Coile and Zhang (2022) found that there was an increasing trend of earlier retirement during the COVID-19 pandemic. Similarly, Davis (2021) found that an increasing portion of part-time older workers and workers in high-contact occupations retired earlier during the pandemic. However, few studies have been published to examine the impact of the COVID-19 pandemic on older American adults' retirement expectations. More importantly, as Cregan et al. (2023) pointed out in their study, retirement is often a process instead of a one-time decision, and people's retirement intentions change over time.

To fill the gaps in the existing literature, we explore the potential influence of the COVID-19 pandemic on employees' expected retirement age. Given the richness of data at our disposal, we also examine different socioeconomic and demographic factors (other than COVID-19) that could potentially impact expected and actual retirement ages. More generally, this study seeks to answer several important questions regarding the accuracy of retirement expectations among older Americans. Do retirees' expectations match the reality of when they eventually retire? How significant are the gaps between the participants' actual and expected retirement ages? What factors affect people's retirement expectations in their 50s and impact their actual retirement decisions a decade or two later?

Using two different data sets, this study first examines whether the COVID-19 pandemic significantly impacted American workers' retirement expectations. Then, it explores the gaps between older Americans' expected and actual retirement ages, further examining which factors are related to worker expectations and actual retirement decisions.

The first data set used in this study is based on responses to an online financial wellness assessment offered by Prudential Financial. This dataset is used to better understand the variability of expected retirement age during COVID-19. Two separate questionnaires are reviewed. The first was offered from April 20, 2017, to June 27, 2020, and the second from June 28, 2020, to December 1, 2021. There are 154,403 responses available for the first dataset and 87,571 for the second that meet the required filters (out of a total of 241,974 responses). If an individual took the questionnaires multiple times, only the last response is included. Key variables in this data set include age, gender, marital status, household income, and expected retirement age, and date of survey completion.

The second data set employed in this study is the Health and Retirement Study (HRS) data, a nationally representative longitudinal survey of more than 37,000 individuals over the age of 50 that is widely used in the retirement literature. The core HRS survey has been conducted biennially since 1992, and the 2020 wave contains a COVID-19 section that recorded the participants' responses to various pandemicrelated questions.

Analyses from both data sets indicate that older Americans' retirement expectations (including planned retirement age and Social Security benefit claiming age) remain largely uninterrupted despite enduring the impact of the COVID-19 pandemic on their work and financial situations in 2020. Among the factors that influence participants' retirement decisions, health  $(+)^5$ , wealth (-), age (+), change of marital status (+), mortality expectations (+), education levels (+), and major illness diagnosis (-) are the most significant factors that impact participants' expected retirement timing.

#### Methodology and Results

Correctly anticipating retirement timing is not only crucial for an individual's own retirement success but also important for financial planners to provide appropriate advice and services to their clients. A growing body of research, though, indicates that individuals' retirement age projections are inconsistent with their actual retirement ages. Meanwhile, incorporating retirement age uncertainty into a financial plan can significantly impact required retirement savings levels. The more accurately participantfacing calculators and financial plans represent the range of outcomes with associated probabilities, the more efficiently they can help workers achieve a successful retirement.

Examining the Prudential and HRS survey data sets, this study finds that the COVID-19 pandemic did not impact older Americans' retirement expectations significantly. However, acknowledging that other factors than COVID-19 (or other significant events) do meaningfully influence both expectations and outcomes, the study investigates different socioeconomic and demographic factors that impact older Americans' actual and expected retirement ages, as well as the gaps between the two. Both sets of results indicate that more than half of the participants retire earlier than they expected. The significant factors that influence most participants' retirement decisions relative to expectations are health, wealth, age, change of marital status, mortality expectations, education levels, disability, and major illness diagnosis. Understanding and better capturing the influence of these factors can help the retirement benefits community explore strategies to mitigate the negative consequences of individuals' inaccurate retirement expectations upon their retirement outcomes.

#### COVID-19 was a Nonevent for Retirement Age Expectations

Based on the survey data from Prudential Financial, retirement age expectations are relatively sticky, especially among older households. Figure 1 shows the average expected retirement age by month and age group. Note that these are independent observations and are highly unlikely to be the same individual over time (although theoretically possible).

The fluctuations during and shortly after the COVID-19 period are not significantly larger than those before the pandemic period. Meanwhile, although different ages responded differently, their responses within age groups did not differ meaningfully during vs. shortly before and after the COVID-19 period.

<sup>&</sup>lt;sup>5</sup> In this text, "(-)" means the impact is negative (i.e., retire earlier than expected and "(+)" means retire later than expected).



Figure 1. Average Expected Retirement Age by Month and Respondent Age Group (Prudential Data)

Prevalent change in expected retirement age during COVID-19 is not observed from Figure 1 above, especially among the older age cohorts.

Figure 2 further supports this observation by showing the month coefficient of an OLS regression<sup>6</sup> where the dependent variable is

retirement age expectation. The independent variables include age, gender, marital status, and income, etc.

monthly variable coefficients minus the average value of these months.

<sup>&</sup>lt;sup>6</sup> See Appendix Table 3 for the detailed OLS regression results. The average expected retirement age change is captured by the difference between the



Figure 2. OLS Month Coefficient, by Month and Respondent Age Group (Prudential Data)

Based on Figure 2, the average expected retirement age increased briefly during the beginning of the COVID-19 pandemic. However, for older cohorts, the change is economically insignificant and (observing the timing of the increase followed by its rapid retreat) may have been caused by stock market volatility rather than by COVID-19.

The next two exhibits show that in general, there is a natural upward trend for participants to expect a later and later retirement age when they are older. However, this natural trend of delaying retirement has no statistically significant relationship<sup>7</sup> with the COVID-19 pandemic.

<sup>&</sup>lt;sup>7</sup> Tested with both OLS and DID (difference in difference) regressions in the appendix. See Appendix Table 1 and Table 2 for more details.



Figure 3. Average Expected Retirement Age by Respondent Age (Prudential Data)

Figure 4: Average Expected Retirement Age by Respondent Age (HRS data)



# **Retirement Expectations vs. Realities: Factors that Impact Retirement Decisions**

If COVID-19 did not alter participants' retirement expectations significantly, what does? Also, are there significant gaps between expected and actual retirement ages? Next, this study focuses on investigating the different socioeconomic and demographic factors that could potentially impact older American adults' expected and actual retirement ages, using the

longitudinal HRS data. It also examines how the change of these factors shifts the gaps between the participants' retirement expectations and reality.

In the HRS data, participants' retirement records are tracked from 1992 to 2018, during which period some participants retired and then went back to work one or more times. Therefore, we created four possible definitions for "actual" retirement ages from the HRS:

- 1) First recorded retirement age the first recorded year in which the participant retired.
- Last recorded retirement age the last (up until 2018) recorded year in which the participant retired.
- Mode retirement age the recorded year in which the participant retired for the longest period from 1992 to 2018.
- 4) First and mode retirement age the first and only recorded year in which the participant retired and stayed retired (never went back to work).

Figure 5 shows the different percentages of participants who retire earlier, later, and in the same year as they expected versus each of these definitions when they were in their 50s. While 53.2% of the HRS participants retired earlier than they expected when they originally answered the survey in 1992 using the first recorded retirement age as the definition of the "actual" retirement age, only 42.4% using he last recorded retirement age. Regardless of definition there is a clear trend where people retire earlier than expected, consistent with the research of EBRI (2017) and the Gallup (2018), among others.



Figure 5. Actual vs. Expected Retirement Age (HRS Data)

*Note*: The analysis sample used above is 3,441 HRS primary respondents who retired between 1992 and 2018. The expected retirement age used is calculated using the respondents' expected retirement year recorded in the 1992 wave.

Across the twelve HRS survey waves, there are 17,170 participants who retired between 1992 and 2018. Among them, 7,773 answered the question "When do you think you will stop working?" during the 1992 survey wave, and 4,704 of them are primary respondents<sup>8</sup>After further restricting the age of these primary

respondents to be between 50 and 59 (i.e., filtering out those who are not in their 50s) (see reasons in Figure 4 in the appendix), the main analysis sample of this study consists of 3,441 respondents, representing 8,364,876 U.S.

<sup>&</sup>lt;sup>8</sup> In the HRS, the primary response is the household member who answered the survey primarily, not including their spouses or children in the household.

national population after applying the 1992 personal-level analysis weight.

After using the first recorded year in which the participant retired as the definition of the actual retirement, we can plot the HRS participants' average expected, actual retirement ages, and the gaps between the two. Figure 6 below shows that older Americans' expected retirement ages are bimodal, often centered around two Social Security (SS) retirement benefit claiming ages – 62 and 65 years old, which are the initial eligible claiming age and full SS benefit claiming age. Note that the full retirement age (FRA) in Social Security for those 50-year-olds in 1992 was around 65<sup>9</sup> instead of 67. In addition, 65 is also the age for Medicare eligibility.

Rutledge et al. (2015) point out that Social Security FRA is strongly correlated with retirement age. They state that a one-year

increase in Social Security FRA is associated with a 0.3-year increase in the retirement age, all else equal. Figure 7 indicates that although participants plan to retire around those two ages, their actual retirement ages are more spread out, and they are more likely to retire at age 62 or before, with a clear mode of 62. According to Figure 6, more than 34% and 31% of older Americans plan to retire around age 62 or 65, respectively, consisting of the majority of the population. However, it is clear that actual retirement ages differ from expectations. Figure 7 shows that not only do people actually retire well before the Medicare eligibility age of 65 but also that the actual retirement age numbers are more spread out, with a peak at age 62 (15%). More than 44% of the respondents retire before age 62, which is concentrated on the left side of the peak. In contrast, only 24% of participants expected to retire before age 62 when they were in their 50s.

security FRA base on birth years from this link: https://www.ssa.gov/pressoffice/IncRetAge.html.

<sup>&</sup>lt;sup>9</sup> Some of the cohort (who is in their 50s in 1992) have FRA slightly above 65. Please see the details of social





*Note*: The number of primary respondents in this chart is 3,289 before weights are applied. After applying the 1992 respondent level analysis weight, it represents 8,361,046 older Americans in the United States.



Figure 7. Distribution of Actual Retirement Age for All Retired Participants between 50 and 60 Years Old in 1992 (HRS Data)

*Note*: The number of primary respondents in this chart is 3,289 before weights are applied. After applying the 1992 respondent level analysis weight, it represents 8,361,046 older Americans in the United States.



Figure 8. First Reported Retirement Age Minus 1992 Expected Retirement Age (HRS Data)

*Note*: The number of primary respondents in this chart is 3,283 before weights are applied. After applying the 1992 respondent level analysis weight, it represents 8,343,446 older Americans in the United States.

Using the actual retirement age minus the expected retirement age, which is the error in expectations, the distribution of these differences also implies a higher likelihood of retiring before expectations. As Figure 8 indicates, only one in six (16%) retired at the age they expected. Including those that accurately forecast their own retirement age, 36 percent of the sample retired within (plus or minus) one year of their expected first retirement age, 49 percent retired within two years, and 64 percent retired within three years of their expected first retirement age. Just under 80 percent retired within five years of their expected retirement ages, and almost 5 percent retired more than ten years away from the retirement age they had forecasted when they were in their 50s.

Based on Exhibits 6-8, while most older Americans' expected retirement ages are centered around two Social Security Benefit claiming ages – 62 and 65 years old, the distribution of their actual retirement ages follows a left-skewed kernel distribution<sup>10</sup>. The notable gap (see Appendix Figure 4) between older Americans' actual and expected retirement ages is the motivation to explore the factors that could potentially influence retirement decisions.

Using the longitudinal HRS data, this study examines the different socioeconomic and demographic factors that could possibly affect older Americans' retirement expectations and the gaps between their actual and expected retirement ages. The factors tested in this study include wealth, health, gender, education level, self-

<sup>&</sup>lt;sup>10</sup> The skewness of the distribution is 1.73 and the kurtosis is 3.54, which indicate this distribution is a

positive-skewed (left-skewed) leptokurtic distribution.

perceived life expectancy, age, financial planning horizon, major illness diagnosis, race, number of children, and marital status. Table 1 summarizes some of these socioeconomic and demographic variables with significant effects on older Americans' retirement age decisions based on the results of the regression studies that follow.

	Association with <b>Expected</b> Retirement Age	Association with <b>Actual</b> Retirement Age	Longitudinal Impact on Retirement <b>Expectations</b> (1992 - 2018)	Longitudinal Impact on the <b>Gaps</b> (Expectation Accuracy)	Longitudinal Impact on Likelihood of Retire Earlier or Later	
Factors	Earlier Later (-) (+)	Earlier Later (-) (+)	Hasten Delay (-) (+)	BiggerSmaller(+)(-)(Less(MoreAccurate)Accurate)	Earlier Later (-) (+)	
Health Improve	Expect to retire later**	Retire later**	Hasten Retirement Expectations***	Increase Gaps**	Likely to retire later***	
Wealth Increase	Expect to retire earlier***	Retire earlier***	Delay Retirement Expectations***	Decrease Gaps***	Likely to retire earlier**	
Self-perceived Life Expectancy Increase	Expect to retire later***	(Not significant)	Hasten Retirement Expectations***	Increase Gaps***	Likely to retire later***	
Getting Married	(Not statistica	lly significant)	Hasten Retirement Expectations**	Increase Gaps**	Likely to retire later*	
Divorce/Widowed	Expect to retire later**	(Not significant)	Delay Retirement Expectations***	Decrease Gaps***	Likely to retire earlier*	
Major Illness Diagnosis	Expect to retire earlier**	Retire earlier***	Delay Retirement Expectations***	Decrease Gaps***	Likely to retire earlier***	

Table 1. A	ssociation or	Impact of ]	<b>Different</b> ]	Factors on	Retirement	Age Decis	sions (Summar	<b>v</b> )
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*Note*: \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001. The first two columns select results from cross-sectional OLS regressions, and the last three columns select results from longitudinal fixed-effects and ordered probit regressions. The regression sample is based on the 5,912 participants who were in their 50s during the 1992 HRS survey wave and retired after the year 1992.

Using the cross-sectional OLS regression (results in Table 2), we first examine the factors that are associated with older Americans' expected retirement ages and their actual retirement ages. The regression results indicate that keeping everything else equal (ceteris paribus), participants with more education, better health, longer self-perceived life expectancy, a larger number of living children, and older age are associated with both later retirement expectations and actual retirement ages in their 50s. On the contrary, having more wealth and major illness diagnoses are factors that are associated with both earlier retirement expectations and actual retirement ages.

Independent Variables	Dependent Variable: Actual Retirement Age	Dependent Variable: Average Expected Retirement
1	C	Age
Age_1992	0.351***	0.259***
-	(0.029)	(0.034)
Female	0.245	-0.306
	(0.148)	(0.173)
Married1992	0.0470	0.308
	(0.193)	(0.227)
Education Years	$0.0804^{**}$	0.221***
	(0.029)	(0.034)
Ln(Wealth1992)	-0.231***	-0.321***
	(0.055)	(0.067)
Race Black (Race White Omitted)	0.0477	-0.482
,	(0.273)	(0.316)
Race Other	0.808*	0.0545
	(0.408)	(0.500)
FinPlanHorizon1992	0.0795	-0.0974
	(0.065)	(0.078)
EverHadCancerorHeartProb1992	-0.629**	-1.041***
	(0.239)	(0.287)
Health1992	0.681***	0.549***
	(0.077)	(0.093)
NumberofDivorces1992	0.0667	0.443**
	(0.115)	(0.135)
NumberofLivingChildren1992	$0.0898^{*}$	0.0879
-	(0.040)	(0.048)
YearstoLive1992	0.00111	0.0410***
	(0.008)	(0.010)
N	4,310	3,664

Table 2: OLS F	Regression on	<b>Factors Asso</b>	ciated with	Average	Retirement	Expectations	and Actual
Retirement Age	Decision						

Next, we utilize the longitudinal data to investigate how the participants' actual and expected retirement ages shift when these socioeconomic and demographic factors change throughout the years (from 1992 to 2018). The results of the longitudinal (time) fixed effects OLS regression in Table 3 tell us that the increase in wealth, widowhood, and major illness diagnosis will positively (retire later) impact participants' expected retirement age. These life changes predict an individual will think they will retire later. Getting married, improvement in selfreported health, and self-perceived life expectancy increase will cause participants to expect earlier retirement ages. These life changes predict an individual will think they will retire earlier.

Independent Variables	Dependent Variable: Expected Patirement Age (1992-2018)
Health	-0.555**
	(0.170)
Ln(Wealth)	1.037***
	(0.140)
YearstoLive	-0.216****
	(0.019)
Married	-2.051**
	(0.671)
Widowed	3.467***
	(0.750)
NumberofLivingChildren	0.203
	(0.181)
FinPlanHorizon	0.0602
	(0.106)
EverHadCancerorHeartProb	5.244***
	(0.422)
N	5,726

**Table 3. Longitudinal Fixed Effects OLS Regression on Retirement Expectations** 

When it comes to the difference (gaps) between the participant's actual retirement age and their expected retirement age, the longitudinal (time) fixed effect OLS regression in Table 4 indicated following conclusion: Increases the in participants' health, self-perceived life expectancy, and being married will increase the gaps between participants' first recorded retirement age and their expected retirement age. So these types of life changes predict that an individual will be less accurate in retirement age forecasts. Meanwhile, the increase in wealth, being widowed, and major illness diagnoses will decrease the gaps between participants' actual vs. expected retirement ages.

After investigating the wealth factor, we find out an interesting phenomenon: Although older Americans expect to retire later when they experience a wealth increase prior to their retirement, their actual retirement age is actually getting younger and closer to their original expected retirement age (gaps are smaller). On the other hand, an increased life expectancy pushed back the actual retirement age and led to a growing retirement age gap. For example, keeping everything else equal, a one-year increase in life expectancy is on average associated with 0.22 years increase in the gap between actual and expected retirement.

Independent Verichles	Dependent Variable:					
	Gaps between Actual and Expected Retirement Ages (1992-201					
Health	0.563**					
	(0.171)					
Ln(Wealth)	-1.069***					
	(0.142)					
YearstoLive	0.218***					
	(0.019)					
Married	1.933**					
	(0.686)					
Widowed	-3.580***					
	(0.759)					
NumberofLivingChildren	-0.149					
-	(0.182)					
FinPlanHorizon	-0.0461					
	(0.107)					
EverHadCancerorHeartProb	-5.240***					
	(0.426)					
N	5,668					

Table 4. Longitudinal Fixed Effects OLS Regression on Actual Minus Expectations

Last but not least, we want to know the magnitude of the likelihood for participants to retire earlier or later (timing flags) caused by each of these factors. Table 5 shows the results of the average marginal effects of the longitudinal ordered probit regression on the timing flags regarding participants' actual retirement age minus their expected retirement age (the gaps). The regression results imply that the positive improvements in participants' selfreported health, self-perceived life expectancy, income level, and getting married will likely cause participants to retire later than expected. Positive changes in participants' wealth levels, financial planning horizon increases, major illness diagnoses, as well as widowhood are likely to cause participants to retire earlier than expected, keeping everything else equal.

#### **Conclusion and Implications**

Understanding retirement age expectations compared to actual retirement ages can help policymakers, employers, and industry providers improve retirement benefit design across a range of structures, products, and services, such as defaults and catch-up provisions, investment modeling, and participant advice and education. Using the Prudential Financial survey data and the longitudinal Health and Retirement Study (HRS) data, this study finds that although there is generally a natural upward trend for older American adults to progressively delay their expected retirement, this trend has no statistically significant relationship with the COVID-19 pandemic. study The then examines socioeconomic and demographic factors that are thought to impact older American adults' expected and actual retirement ages. In addition, this study also investigated how the changes in these factors shift the gaps between participants' expected and actual retirement ages. Understanding the relationship between these factors, workers' expected retirement timing and their ultimate retirement choices, employers and retirement industry providers can help employees better prepare for the (often negative) financial situations that arise when retirement expectations and reality do not align.

	Independent Variable: Flags on Actual Minus Expected Retirement									
		Ages								
Indonandant Variables	Retire Earlier than	Same Year as	Retire Later than							
Independent variables	Expected (-1)	Expected (0)	Expected (+1)							
Health	-0.0283***	0.00434***	0.0239***							
	(0.0066)	(0.0010)	(0.0056)							
Ln(Wealth)	$0.0146^{**}$	-0.00224**	-0.0123**							
	(0.0045)	(0.0007)	(0.0038)							
Years to Live	-0.00344***	0.000529***	0.00291***							
	(0.0007)	(0.0001)	(0.0006)							
Married	$-0.0414^{*}$	$0.00637^{*}$	$0.0351^{*}$							
	(0.0181)	(0.0028)	(0.0154)							
Widowed	$0.0892^{**}$	-0.0137**	-0.0755**							
	(0.0280)	(0.0043)	(0.0237)							
Number of Living Children	0.000759	-0.000117	-0.000642							
	(0.0036)	(0.0006)	(0.0030)							
Financial Plan Horizon	$0.0140^{**}$	-0.00215**	-0.0118**							
	(0.0051)	(0.0008)	(0.0043)							
Ever Had Cancer or Heart Prob	0.0966***	-0.0148***	-0.0818***							
	(0.0178)	(0.0028)	(0.0151)							
N	5,668	5,668	5,668							

 Table 5: Longitudinal Ordered Probit Average Marginal Effects on Reality Minus Expectations

 Retirement Timing Flags

Retirement age decisions not only affect the economic well-being of individuals and households in the United States., but also impact the financial solvency of the Social Security System (Montalto, Yuh, and Hannah, 2000). A growing body of research indicates that retirement age projections are inconsistent with decisions on actual retirement age, and incorporating retirement age uncertainty into a financial plan can significantly impact required retirement savings levels (Blanchett, 2018). Understanding that many retirement service products and financial planning engines integrate a self-reported retirement age into their design, benefits providers and employers may consider incorporating retirement uncertainty (such as the discrepancy between retirement expectations and reality discussed in this study) into the product design and implementation. The more accurately participant-facing calculators and financial plans

represent the range of outcomes with associated probabilities, the better they can help workers achieve a successful retirement.

Using the longitudinal HRS data, this study examines the different socioeconomic and demographic factors that impact older Americans' actual and expected retirement ages, as well as the gaps between the two. We find that when even among retirees who were only ten years away from their retirement age (i.e., in their 50s), only one in six accurately predicted their first retirement age. In fact, more than half of the participants ended up retiring earlier than their expectations. Although participants' expected retirement ages are usually centered around two Social Security claiming ages (62 and  $65^{11}$ ), their actual retirement ages are more likely to follow a negatively skewed (retire earlier) distribution. The most significant factors that influence participants' retirement decisions relative to

<sup>&</sup>lt;sup>11</sup> Age 65 is the FRA for those 50-year-olds in 1992 when they took the HRS survey. It is also an important

age for Medicare. Note that the full SSB FRA is now around 67 for younger cohorts.

expectations are health (+), wealth (-), age (+), change of marital status (+), mortality expectations (+), education levels (+), disability (-), and major illness diagnosis (-). Focusing on these factors can help the retirement benefits community explore strategies to mitigate the negative consequences of gaps between retirement expectations and reality.

This study also introduces several alternative definitions of "actual" retirement. Since participants may go back to work after their first retirement, either full-time or part-time, their retirement well-being could be significantly impacted by their decisions to reenter the workforce. Policymakers, employers, and retirement service providers may also take the participants' potential multiple retirement periods into consideration. Future studies could focus on the similarities and differences between these retirement definitions and investigate the patterns in which retirees stop working or reenter the workforce one or more times.

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#### Appendixes

#### Appendix Table 1. OLS on Expected Retirement Age (HRS Data 2020)

Ordinary Least Squares (OLS) on Expected									
Retirement Age									
Expected Retirement Age	<b>OLS Results</b>								
Age in 2020	0.486***								
	-0.0232								
Female	-0.0799								
	-0.3335								
Married	0.38								
	9								
	-0.3312								
Education Years in 2020	0.0814								
	-0.0518								
Work Affected (Yes=1, No-0)	-0.134								
	-0.3341								
Ν	1,05								
	6								
Standard errors in parenthese	es								
$p^{*} p < 0.05, p^{**} p < 0.01, p^{***} p$	0 < 0.001								

Di	ifference-in-Di	fference (D)	(D) on Expec	ted Retir	ement Ag	ge	
Outcome Variable	Age of Exp Social Sec Income	ected urity Stand	ard Error	t	P> t		
Before							
Control	68.776						
Treated	68.666						
Diff (T-C)	-0.11		0.379		-0.29	0.772	
After							
Control	69.015						
Treated	69.098						
Diff (T-C)	0.084		0.39		0.21	0.83	
Diff-in-Diff	0.193		0.544		0.36	0.722	
	Number	of observatio	ons in the DIF	F-IN-DII	FF: 2,199		
		Before	After				
	Control:	442	406	8	348		
	Treated:	680	671	1,3	51		
		1,122	1,077				

## Appendix Table 2. DID on Expected Retirement Age (HRS Data 2018 & 2020)

	40 - 49	<b>ULD</b>	ахреен	<u>u ne</u> n		50 - 59		<u>ata 2</u> 01	0 2021)	60 - 69		
	Estimate	Std. Error	t value		Estimate	Std. Error	t value		Estimate	Std. Error	t value	
(Intercept)	51.88	6.02	8.61	- **	102.21	6.22	16.44	**	203.29	6.55	31.02	**
age	1.24	0.27	4.58	** *	-1.16	0.23	-5.10	** *	-5.00	0.20	-24.48	** *
age_sq	-0.01	0.00	-4.53	** *	0.01	0.00	5.57	** *	0.04	0.00	27.60	** *
ln_Income	-1.13	0.04	-28.02	** *	-0.74	0.03	-26.15	** *	0.32	0.02	14.24	** *
married	-0.15	0.05	-2.83	**	-0.41	0.04	-11.09	** *	-0.54	0.03	-18.27	** *
male	-0.73	0.05	-15.84	** *	-0.43	0.03	-13.43	** *	-0.10	0.03	-3.81	** *
mon_2018_7	-2.50	0.28	-9.07	** *	-0.75	0.20	-3.74	** *	-0.05	0.18	-0.26	
mon_2018_8	-2.76	0.37	-7.40	** *	-0.59	0.26	-2.32	*	0.47	0.19	2.44	*
mon_2018_9	-2.20	0.31	-6.98	** *	-0.66	0.25	-2.69	**	-0.10	0.21	-0.49	
mon_2018_10	-1.87	0.29	-6.51	** *	-0.11	0.22	-0.50		0.35	0.19	1.81	
mon_2018_11	-2.87	0.24	-11.77	** *	-0.84	0.19	-4.36	** *	0.12	0.17	0.71	
mon_2018_12	-2.80	0.28	-9.98	** *	-1.02	0.21	-4.84	** *	-0.20	0.18	-1.09	
mon_2019_1	-2.65	0.21	-12.33	** *	-0.43	0.17	-2.49	*	0.41	0.15	2.68	**
mon_2019_2	-2.86	0.22	-13.23	** *	-0.87	0.17	-5.02	** *	-0.06	0.15	-0.38	
mon_2019_3	-2.53	0.22	-11.24	** *	-0.47	0.18	-2.70	**	0.17	0.15	1.11	
mon_2019_4	-2.91	0.22	-13.51	** *	-0.93	0.17	-5.52	** *	0.20	0.15	1.37	
mon_2019_5	-2.90	0.20	-14.54	** *	-0.96	0.16	-5.88	** *	0.06	0.15	0.43	
mon_2019_6	-2.98	0.22	-13.43	** *	-0.83	0.17	-4.80	** *	-0.13	0.15	-0.82	
mon_2019_7	-3.54	0.19	-18.43	** *	-0.96	0.16	-6.06	** *	0.02	0.14	0.16	
mon_2019_8	-3.18	0.21	-15.33	** *	-0.89	0.16	-5.45	** *	-0.06	0.15	-0.41	
mon_2019_9	-2.96	0.21	-14.33	** *	-0.85	0.16	-5.17	** *	0.06	0.15	0.40	
mon_2019_10	-2.87	0.21	-13.94	** *	-0.72	0.16	-4.43	** *	0.09	0.14	0.59	
mon_2019_11	-2.85	0.22	-12.68	** *	-0.69	0.18	-3.91	** *	0.13	0.16	0.82	
mon_2019_12	-2.84	0.24	-12.04	** *	-0.72	0.18	-3.93	** *	-0.06	0.16	-0.35	
mon_2020_1	-2.27	0.20	-11.49	** *	-0.63	0.16	-3.87	** *	0.15	0.15	1.01	
mon_2020_2	-2.38	0.20	-11.72	** *	-0.73	0.17	-4.39	** *	0.15	0.15	0.98	
mon_2020_3	-1.99	0.24	-8.27	** *	-0.19	0.19	-1.01		0.28	0.17	1.65	
mon_2020_4	-2.10	0.26	-8.24	** *	-0.34	0.21	-1.65		0.41	0.19	2.17	*
mon_2020_5	-2.49	0.26	-9.73	** *	-0.77	0.20	-3.75	** *	0.05	0.18	0.28	
mon_2020_6	-3.11	0.23	-13.69	** *	-1.05	0.18	-5.78	** *	-0.08	0.16	-0.47	
mon_2020_7	-2.81	0.21	-13.15	** *	-0.80	0.17	-4.66	** *	-0.19	0.15	-1.26	

#### Appendix Table 3. OLS Expected Retirement Age (Prudential Data 2018 - 2021)

2020 0	2 00	0.00	14.04	**	0.60	0.1.6	0.67	**	0.04	0.15	0.04	
mon_2020_8	-2.88	0.20	-14.24	*	-0.60	0.16	-3.67	*	0.04	0.15	0.26	
mon_2020_9	-2.41	0.21	-11.64	** *	-0.54	0.17	-3.26	**	0.01	0.15	0.06	
mon_2020_10	-2.99	0.23	-12.86	** *	-0.90	0.18	-4.96	** *	-0.10	0.16	-0.62	
mon_2020_11	-2.67	0.24	-11.29	** *	-0.96	0.18	-5.33	** *	-0.19	0.16	-1.23	
mon_2020_12	-2.90	0.23	-12.60	** *	-0.90	0.18	-5.04	** *	-0.09	0.15	-0.60	
mon_2021_1	-2.43	0.20	-11.93	** *	-0.64	0.17	-3.86	** *	-0.07	0.15	-0.50	
mon_2021_2	-2.48	0.22	-11.19	** *	-0.84	0.18	-4.76	** *	-0.17	0.15	-1.09	
mon_2021_3	-2.79	0.23	-12.28	** *	-0.76	0.18	-4.26	** *	-0.21	0.16	-1.34	
mon_2021_4	-3.17	0.22	-14.13	** *	-1.05	0.17	-6.04	** *	-0.11	0.16	-0.68	
mon_2021_5	-2.79	0.26	-10.76	** *	-0.90	0.20	-4.44	** *	-0.31	0.17	-1.78	
mon_2021_6	-2.97	0.27	-10.87	** *	-0.64	0.22	-2.96	**	0.28	0.20	1.44	
mon_2021_7	-2.58	0.26	-9.81	** *	-0.77	0.21	-3.72	** *	0.11	0.18	0.62	
mon_2021_8	-2.92	0.26	-11.09	** *	-0.71	0.21	-3.43	** *	0.24	0.18	1.29	
mon_2021_9	-2.77	0.27	-10.41	** *	-0.85	0.21	-4.04	** *	0.13	0.19	0.70	
mon_2021_10	-3.43	0.26	-13.18	** *	-1.01	0.20	-5.00	** *	0.06	0.18	0.31	
mon_2021_11	-2.53	0.26	-9.72	** *	-1.14	0.20	-5.66	** *	-0.03	0.18	-0.17	
mon_2021_12	-2.41	1.05	-2.28	*	-0.60	0.71	-0.84		-0.78	0.62	-1.26	



Appendix Figure 1. Average Gaps between Actual and Expected Retirement Ages across Age Groups

Note: After temporarily releasing the age restriction to 70 instead of 60, the number of primary respondents represented in this chart is 4,186 before weights are applied. After applying the 2018 respondent level analysis weight, it represents 7,444,380 older Americans in the United States.